

# Promoting Treatment for Latent Tuberculosis Infection

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Prince William  
Health District



# Why Treat LTBI?

- Treatment of latent tuberculosis infection (LTBI) is essential to controlling and eliminating tuberculosis (TB) in the United States
- Substantially reduces risk of progression to TB disease
- Certain groups are at higher risk of developing TB disease
  - Immunocompromised
  - Recent infection with *M. tuberculosis*





# LTBI Counseling – Part 1

- Education and counseling begins with the risk assessment
  - Reason for obtaining TB screening/testing
  - Briefly discuss next steps if TB test positive
    - CXR
    - Health history
    - Treatment options





# LTBI Counseling – Part 2

- Client returns for TB testing results and test is positive
  - CXR
- Education on latent TB infection v. active TB disease
  - Provide handout

Virginia Department of Health  
Tuberculosis Control Program  
TB Infection Fact Sheet

Virginia Department of Health - TB Control  
109 Governor Street ~ Richmond, VA 23219  
Phone: 804-864-7000 ~ Fax: 804-371-0248  
<http://www.vdh.virginia.gov/tb>

**What is TB?**  
TB is an infectious disease caused by the bacteria *Mycobacterium tuberculosis*. TB disease most often affects the lungs, but can occur anywhere in the body. Some types of TB disease are contagious, and some are not. TB diseases of the lung or larynx are contagious.

**What are the Differences Between TB Infection and TB Disease?**  
In TB infection, or Latent TB Infection (LTBI), the TB bacteria are in the body but are asleep or inactive. A person with LTBI usually has a positive TB skin test and a normal chest x-ray. A person with LTBI does not have any symptoms of TB disease, and, this person is not sick and cannot spread TB to others. LTBI may turn into TB disease. A person with LTBI has a 90% chance of living his/her life without developing TB disease, but a 10% chance of developing TB disease during his/her life. The greatest chance of LTBI turning into TB disease is in the 2 years after becoming infected. In TB disease, the TB bacteria in the body awaken or become active. A person with TB disease is sick and may spread TB to other people. A person with TB disease has a positive TB skin test, an abnormal chest x-ray (usually) and symptoms of TB disease (coughing for more than 3 weeks, fever, night sweats, fatigue, unexplained weight loss, loss of appetite, and/or others). A person with TB disease needs medication to become well.

**Is Medication Necessary for TB Infection (LTBI)?**  
In the US, physicians typically prescribe Isoniazid (INH) for TB infection. INH reduces the chances of the TB infection (LTBI) turning into TB disease. Once the INH therapy starts, it needs to continue for 9 months. Not following this therapy as prescribed might make the TB bacteria resistant to INH, reducing the drug's ability to kill the bacteria. This latter issue is a concern if the LTBI turns into TB disease.

**How Does TB Spread?**  
TB bacteria spread from person to person through the air. TB bacteria must be inhaled in order for infection to occur. When a person with contagious TB disease coughs, laughs, or sings, s/he releases TB bacteria into the air. These bacteria can remain in the air for many hours. A person who inhales this air may become infected with TB. A person is more likely to become infected with TB if s/he spends several hours in a poorly ventilated room with a person who is breathing out a lot of TB bacteria into the air. Examples of persons most likely to become infected with TB include those who share a residence or spend a lot of time with a person who has contagious TB disease. TB does not spread by casual contact such as kissing, sharing drinking glasses, dishes, or walking in the park.

**What Happens if the TB Skin Test is Positive?**  
If a person's TB Skin Test is positive, the doctor or nurse may prescribe other tests. These tests check if the TB infection is in the lungs. These tests include a chest x-ray and a laboratory analysis of the person's sputum (phlegm or mucus that is coughed-up). Since TB can occur outside the lungs, other specimen samples such as urine, blood, etc. may be collected and tested.


**What Happens if the TB Skin Test is Negative?**  
A person's negative TB skin test may mean one or more of the following:  
1) Person does not have TB infection.  
2) Person got the TB infection within last 10-12 weeks, and the TB skin test cannot detect the TB infection.  
3) Person has overwhelming TB disease, and the immune system is not responding.  
4) Person cannot react to the TB skin test, because s/he has a compromised immune system.

If a skin test is negative for TB infection, a health care worker will do the following:  
• Reviews the person's medical history, exposure to TB, symptoms for TB disease, and/or other risk factors for TB;  
• Educates this individual about the negative TB skin test and its possible causes; and,  
• May recommend more tests, including a second TST, depending on the person's risk factors for TB.

**Who is at Risk for TB Infection?**  
Risk factors for getting LTBI include contact with a person with infectious TB disease, HIV-positive status, injection drug use, prior residence in a country where TB is prevalent, and residence in a congregated living facility (homeless shelters, migrant farm camps, some nursing homes, prisons/jails, etc.).

**Who Should Get Tested for TB?**  
Only persons with risk factors (see above) for TB should get the TB skin test.

**How is TB Infection Detected?**  
The Mantoux Tuberculin Skin Test (TST) detects TB infection. The TST is given as an injection.



A health care worker administers the TB skin test on the person's arm. Within 48-72 hours (2-3 days) after the test, the health care worker checks the tested area of the arm for a reaction. The health care worker measures the size of the TB skin test reaction in millimeters. This skin test reaction is typically a raised, hard, swelling-like area on the arm where the injection was given. The skin test outcome (positive or negative) depends on the size of the skin test reaction and the person's risk factors for TB. A positive reaction usually indicates TB infection (LTBI).

Fleisch-Kincaid  
Grade Level:  
7.8





# LTBI Counseling – Part 3

- Before screening letter is issued:
  - Complete health history
  - Discuss treatment options
  - Discuss importance of treating infection before progression to disease
    - Risk factors





# LTBI Counseling – Part 3

- Are there other household members that will benefit from screening/testing?





# LTBI Letter of Agreement



Prince William  
Health District

## Prince William Health District

9301 Lee Avenue  
Manassas, VA 20110  
Phone: 703-792-6300  
Fax: 703-792-6338  
[www.vdh.virginia.gov/LHD/PrinceWilliam](http://www.vdh.virginia.gov/LHD/PrinceWilliam)

Dear: \_\_\_\_\_

Due to the fact that you had a positive Tuberculin Skin Test and a negative chest x-ray for active tuberculosis, we are encouraging you to receive treatment for Latent Tuberculosis Infection.

Please understand you do NOT have active tuberculosis and are not contagious to others. You have a Latent Tuberculosis Infection, which means the tuberculosis bacteria is in your lungs but in a resting state. Without treatment, your tuberculosis could become active and make you very Sick.

The Health Department offers treatment for Latent Tuberculosis Infection. The services you will receive will include an exam by a health care practitioner, laboratory test, medications, and possibly a chest x-ray. You will be given an appointment to attend the clinic one day a month for an evaluation and your medication refill.

Payments are due at the time of service. Prior to your treatment appointment, if you elect to apply for a payment reduction base on your household income, please schedule a financial eligibility appointment with the front office.

If you have private health insurance, you may be required to pay co-pay. The Prince William Health District will submit a claim to your health insurance if the Prince William Health District is contracted with your carrier to do so. A receipt will be provided for all other carriers not contracted with the Prince William Health District. Please inform us if you have any health other insurance, including Medicaid.

\_\_\_\_\_ I wish to be treated here. \_\_\_\_\_ I have health insurance.  
\_\_\_\_\_ I will pay clinic fees. \_\_\_\_\_ My provider will treat me.  
\_\_\_\_\_ I will give my provider ( \_\_\_\_\_ ) a copy of this letter.  
\_\_\_\_\_ I decline treatment.

Client Signature \_\_\_\_\_ Date \_\_\_\_\_

Witness \_\_\_\_\_ Date \_\_\_\_\_

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# LTBI Treatment Plan



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### ISONIAZID (INH) LTBI TREATMENT PLAN

#### Why Take Isoniazid?

Your positive skin test shows that you have been exposed to tuberculosis and that the tuberculosis germ is in your body. Your chest x-ray shows that you do not have active or infectious tuberculosis. However, because you are at a higher risk of developing active tuberculosis later in your life, the Prince William Health Department recommends, and you have agreed to take the preventative treatment, Isoniazid. This medicine, when taken every day, will kill the tuberculosis germ and prevent you from developing active tuberculosis.

#### How to Take Isoniazid:

- Take one tablet every day, at the same time every day.
- If you miss a day, do not take extra amounts of the medicine the next day.
- Try to take Isoniazid two (2) hours before or after you eat.
- If prescribed, take pyridoxine (Vitamin B6) along with the Isoniazid.
- DO NOT take any Tylenol (acetaminophen) products. You may take Ibuprofen (Advil or Motrin.) or Aleve.
- DO NOT take any herbal remedies or supplements.
- DO NOT take any Alcohol Products: No beer, wine or any type of liquor.

#### Possible Side Effects:

- Rash
- Nausea or Vomiting
- Fever
- Fatigue
- Numbness or tingling in arms or legs
- Yellow skin or eyes
- Dark urine like coffee or tea

If you experience any of these side effects, or have any questions, call the Prince William Health Department at 703-792-7301 and ask to speak to a tuberculosis clinic nurse.

Your dose of Isoniazid is \_\_\_\_\_mg every day for \_\_\_\_\_ months.

You will be scheduled for a monthly appointment at the health department to review your progress and will be given a new bottle of the Isoniazid medication. Remember to finish all the pills in the bottle you have at home, before opening the new bottle you were given at your clinic appointment.

\_\_\_\_\_  
Patient Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Nurse Signature

\_\_\_\_\_  
Date

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# Goal

- PWHD goal is to have 80% of those identified as having evidence of LTBI complete therapy as recommended in order to prevent active disease





# How do we do?

- Overall, 85-90% of PWHD clients who begin LTBI treatment complete regimen as recommended
- Goal achieved due to:
  - Reinforced education
  - Letter of Agreement
  - Treatment Plan
- Clients understand need for LTBI treatment and importance of completing therapy





# However ...

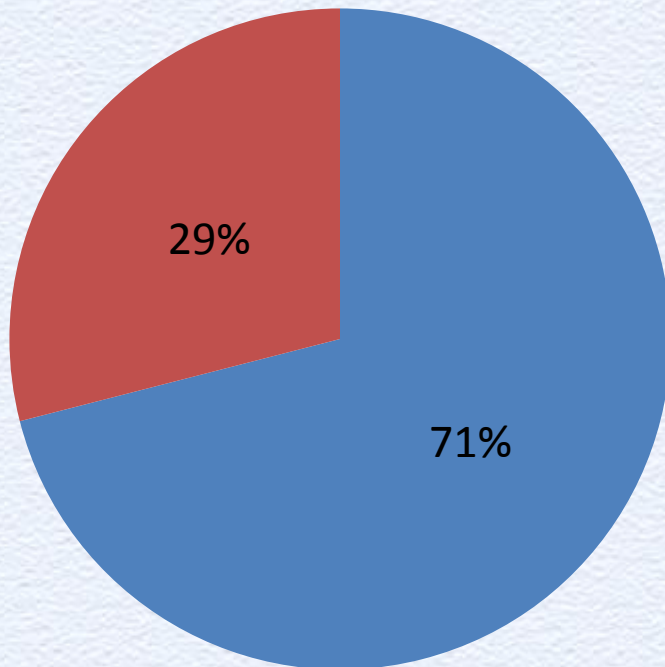
- We did not have accurate historical data documenting the number of clients that are offered LTBI therapy, but decline treatment and the reasons for declining treatment
- Could we do better?
- We started taking a look back ...





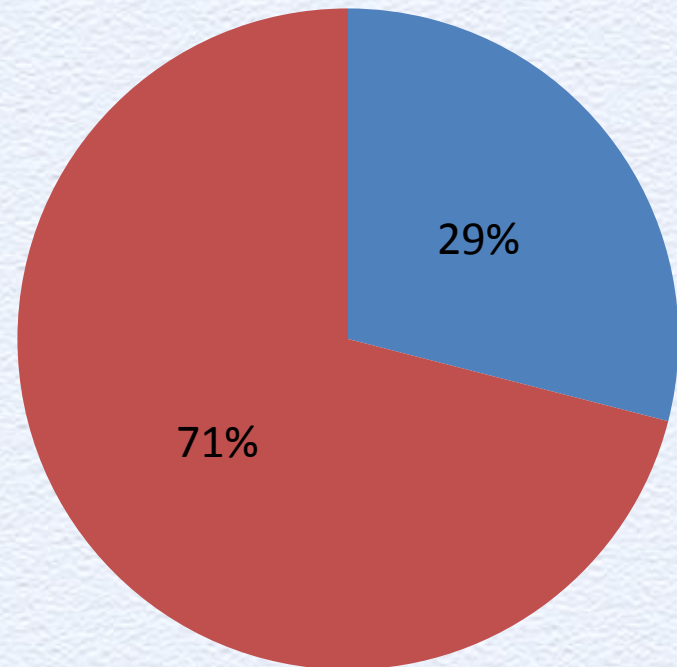
# PWHD Sites

**Site 1**



■ Declined ■ Started

**Site 2**



■ Started ■ Declined





# Quality Improvement

- We have undertaken a QI process to understand and determine influences on acceptance rates at each PWHD site
- How can we encourage more clients to accept and complete LTBI therapy?





# Data Collection

- Number of clients offered LTBI treatment, counseling PHN, and those that refused therapy
- Data gathering on clients that refuse LTBI treatment
  - Age
  - Sex
  - Country of origin
  - Reason for declination





# Barriers to Treatment

- Determine barriers to treatment
  - Education/counseling
  - Prior experience with LTBI medication
  - Cultural beliefs
  - BCG vaccine
  - Cost/time commitment
- Determine if initiatives can be implemented to limit or overcome barriers





# Client Education

- Review of LTBI education material for clients
- Review materials of frequently asked questions regarding LTBI and active TB disease
- Develop talking points to ensure consistent messaging





# Questions to Consider

- Who are our customers?
  - Clients who come in for TB testing and their families
- How will our customers benefit?
  - Completion of LTBI treatment will help decrease the number of TB cases in our community
- How will we know we are doing better?
  - Increase the number of clients with positive TB tests who accept and complete LTBI treatment





*Thank you for all you do to  
eliminate TB in our  
communities!!*



# Prince William Health District